

中华人民共和国商务部援助发展中国家学历学位教育项目

一、项目介绍

(一) 基本情况

1、简介

Tsinghua University (THU) offers 6 master's and 3 doctoral degree programs to 2018 MOFCOM international students in 5 schools/departments, including International Master of Engineering Management (iMEM) Program and Master's Program in Global Manufacturing offered by Department of Industrial Engineering, Master's program and Doctoral Program in Advanced Computing offered by Department of Computer Science and Technology, Master's program and Doctoral Program in Mechanical Engineering offered by Department of Mechanical Engineering, Master's program and Doctoral Program in Environmental Science, Engineering and Management offered by School of Environment, and the Master Program in Global Business Journalism offered by School of Journalism and Communication.

2、招生对象

Please refer to the application guide of above programs :

http://gradadmission.tsinghua.edu.cn/f/yzlxs/yz_lxs_kstzb/view?id=4010

3、培养目标

To cultivate high-level, application-oriented professionals with both global and Chinese perspectives and abilities in terms of planning, organization, coordination and decision-making.

4、招生计划

Master's degree programs are required to be completed in 2-3 years, and doctoral degree programs in 3-4 years. The program listed above are offered fully in English or bilingually in Chinese and English.

5、资助内容

该项目由中华人民共和国商务部在对外援助款项下资助学校教学及其管理有关的费用和学员基本生活有关和往返国际机票的费用。学生免交学费、教材资料费、调研考察费、英文授课补助费、毕业论文指导费；学校为学生免费提供住宿；代为购买来华综合医疗保

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险;学校定期为学生发放生活补助:硕士 36000 元/人/年,博士 42000 元/人/年;给予安置费 3000 元/人,一次性拨付给学员本人。商务部为所有奖学金生免费提供往返国际机票:1 年制提供一次,2 年制以上提供一次往返国际机票,并提供 n-1 (n 为学年数) 回国探亲往返机票。其他费用由商务部或学校统筹管理使用,不发放给学员。商务部仅为学员提供学制内的资助。学员因故延期毕业,不获得继续资助。

(二) 学校介绍

1、学校简介

Tsinghua University was established in 1911, originally under the name "Tsinghua Xuetang". The school was renamed "Tsinghua School" in 1912. The university section was founded in 1925. The name "National Tsinghua University" was adopted in 1928.

The faculty greatly valued the interaction between Chinese and Western cultures, the sciences and humanities, the ancient and modern. Tsinghua scholars Wang Guowei, Liang Qichao, Chen Yinque and Zhao Yuanren, renowned as the "Four Tutors" in the Institute of Chinese Classics, advocated this belief and had a profound impact on Tsinghua's later development.

Tsinghua University was forced to move to Kunming and join with Peking University and Nankai University to form the Southwest Associated University due to the Resistance War against the Japanese Invasion in 1937. In 1946 The University was moved back to its original location in Beijing after the war.

After the founding of the People's Republic of China, the University was molded into a polytechnic institute focusing on engineering in the nationwide restructuring of universities and colleges undertaken in 1952. In November 1952, Mr. Jiang Nanxiang became the President of the University. He made significant contributions in leading Tsinghua to become the national center for training engineers and scientists with both professional proficiency and

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personal integrity.

Since China opened up to the world in 1978, Tsinghua University has developed at a breathtaking pace into a comprehensive research university. At present, the university has 14 schools and 56 departments with faculties in science, engineering, humanities, law, medicine, history, philosophy, economics, management, education and art. The University has now over 25,900 students, including 13,100 undergraduates and 12,800 graduate students. As one of China's most renowned universities, Tsinghua has become an important institution for fostering talent and scientific research.

The educational philosophy of Tsinghua is to "train students with integrity." Among over 120,000 students who have graduated from Tsinghua since its founding are many outstanding scholars, eminent entrepreneurs and great statesmen remembered and respected by their fellow Chinese citizens.

With the motto of "Self-Discipline and Social Commitment" and the spirit of "Actions Speak Louder than Words", Tsinghua University is dedicated to the well-being of Chinese society and to world development.

2、承办院系介绍

① Department of Industrial Engineering

Industrial Engineering at Tsinghua University was initiated in the 1990s. The graduate program in industrial engineering was launched in 1993, which is the first master program in China, and later the undergraduate program in 1997. It was in 2001 that the Department of Industrial Engineering was established with fourteen faculty members. Dr. Gavriel Salvendy, Professor of Industrial Engineering at Purdue University and Member of the United States National Academy of Engineering, was named chaired professor and founding department head. The tenet of the Department of industrial engineering is: To become world class leaders in industrial Engineering research and education, which contributes to increased quality of life, and increased standard of living in China and around the world.

② Department of Computer Science and Technology

Through over fifty years of unremitting efforts, Department of Computer Science and Technology has been developed into a computer science department with

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strong scientific research and teaching accomplishments, and has developed great influence and reputation domestically. It frequently ranks the first in national computer science assessments. In 2010 international assessment, international assessment experts unanimously agreed that "the Computer Science and Technology Department of Tsinghua University has made great progress in the past few years, and has become a world-class computer science research and teaching institution." In October 2017, in the Best Global Universities for Computer Science in the US News ranking, Tsinghua University ranked the 2nd, after Massachusetts Institute of Technology (MIT). In the Quacquarelli Symonds World University Rankings in 2017, the discipline of Computer Science of Tsinghua University ranked the 15th.

③ Department of Mechanical Engineering

The Department of Mechanical Engineering was founded in 1932 which is one of the earliest departments of engineering in Tsinghua University. The primary missions are to reach the forefront of mechanical engineering development for science and technology and to cultivate talents in a global, multi-disciplinary environment. The department has excellent research and education facilities, including 2 state key laboratories, 3 key laboratories from Beijing government or Ministry of Education, 1 international joint laboratory, 2 national education centers, and other research and education resources. In addition, the department has a group of highly regarded faculty members including 5 academicians of Chinese Academy of Sciences and Chinese Academy of Engineering. The Mechanical Engineering of Tsinghua University is one of the highest level academic institutions in the world, for example, it is ranked as 15th in QS World University Rankings.

④ School of Environment

As one of the earliest Chinese institutions dedicated to environmental higher education and research, the School of Environment (SOE) of Tsinghua University (THU) is pledged to the development of sustainable solutions that allows minimizing the impact of human activities on environment. Its commitment also includes educating people to embrace the idea of sustainability. SOE conducts research in a wide arrange of fields, including water supply, wastewater treatment, air pollution control, solid wastes management, environmental chemistry, microbiology, hydrology, ecology, energy and resources, environmental simulation, and environmental management and policy. SOE has provided technical and theoretical support

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for China in solving big environmental problems and implementing sustainable development. After years of effort, SOE has established a scientific and comprehensive system of education, focusing on disciplines of Environmental Engineering, Environmental Science, Environmental Management, Municipal Engineering, Radioactive Protection and Environmental Protection. Each year hundreds of the most talented students were matriculated, many of them had become outstanding figures in the environmental field.

⑤ School of Journalism and Communication

Tsinghua School of Journalism and Communication was established in April 2002. Mr. Fan Jingyi, the former editor-in-chief of the People's Daily, was appointed as first dean. Mr. Liu Binjie is current dean of the school, who was former Minister of General Administration of Press and Publication and is now appointed as chairperson of Education, Science, Culture and Public Health Committee, The National People's Congress. The school takes teaching, academic contributions, social reputations, and international influences as its responsibilities, aiming to the domestic top and world-class journalism and communication disciplines, constructing the Chinese journalism and communication educational system. The faculty members of the school are elite. There is a group of leading professors who are nationally famous and internationally influential, while there is also a group of first-class junior professors with prominent advantages and great potentials. The school has formed its cultivate idea and model with an international perspective and a national applicability.

3、学生生活环境和条件介绍

(1) Beijing is located in East Asia, so the climate has obvious regional differences. The climate in Beijing belongs to the warm temperate zone, half moist continental monsoon climate, featuring four distinct seasons: arid multi-windy spring, hot and multi-rain summer, sunny and fresh autumn and the cold and dry winter. (source: bing)

The data listed below is the conservatively estimated living expenses for your reference, which relies on the price adjustment of the year. We hope you make the necessary plans to ensure that you have sufficient resources to finance the course as early as possible.

Accommodation (on campus) 15,000-30,000

Accommodation (off campus) 18,000-40,000

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Meals 11,000-18,000

Textbooks 2000

Miscellaneous expenses such as transportation, travelling, medical care, physical examination, communication and visa application vary depending on individual spending needs.

(2) The Zijing International Student Apartments of Tsinghua University provide single room (private bedroom and bathroom) to the MOFCOM students. Included in each room are bedclothes, air-conditioner, telephone, Internet access and furniture. Laundry and kitchen are provided in public area.

(三) 教学安排

① Department of Industrial Engineering – International Master of Engineering Management (IMEM) Program

IMEM is a 2-year English program. The teaching methods include theoretical study, practical teaching and on-site re-search. Teaching and learning arrangements in this program combine full-time, face-to-face instructions with the MOOC blended instructions. This program emphasizes the features of Engineering Management in China and experiential teaching so that students can learn to meet practical needs.

1、 课程安排

This program requires no less than 42 credits, including public compulsory courses (4 credits), core engineering management courses (13 credits), restrictive engineering management courses (no less than 7 credits), specialization courses (no less than 12 credits), and thesis (6 credits).

1. Public compulsory course (≥ 4 credits)

- Chinese Culture and Society (60610082) 2 credits (exam)
- Intermediate Chinese Language (60610172) 2 credits (exam)
- Advanced Chinese Language (60610182) 2 credits (exam)

2. Core Engineering Management Courses (13 credits)

- Leadership and Communication (60168012) 2 credits (exam)
- Finance and Investment in Engineering Management (60168022) 2 credits (exam)
- Management Economics (60168032) 2 credits (exam)
- Marketing in Engineering Management (60168042) 2 credits (exam)
- Quantitative Methods for Engineering Management (60168052) 2 credits (exam)
- Strategic Management (60168062) 2 credits (exam)

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- Frontier Lectures in Engineering Management 1 credit (evaluation)
- 3. Restrictive Engineering Management Courses (≥ 7 credits)
 - Engineering and Technology Management (80160363) 3 credits (evaluation)
 - Ergonomics (70160613) 3 credits (exam)
 - China Studies: Industry, Society and Culture (80160433) 3 credits (exam)
 - Best Practice in M.E.M (69998051) 1 credit (evaluation)

Note: this course is organized in a series of domestic and overseas immerse classes; Guided by a supervisor or the MEM Center, students can freely choose no less than one instruction event.

4. Specialization Courses (≥ 12 credits in each direction)

- Enterprise Information Resource Management (80160033) 3 credits (exam)
- Manufacturing in China (80160423) 3 credits (exam)
- Quality Engineering (70160023) 3 credits (exam)
- Systematic Product Design and Development (80160283) 2 credits (exam)
- Fundamentals of Logistics and Supply Chain Management (80168192) 2 credits (exam)
- Theory and Practice of Project Management (80160082) 2 credits (exam)

2、教学方式

Teaching and learning arrangements in IMEM program combine full-time, face-to-face instructions with the MOOC blended instructions.

3、学期安排：暂无

4、毕业论文

(1) 毕业论文具体要求

In the thesis, students must demonstrate their abilities to use theories, knowledge and methods of engineering management and related disciplines to analyze and solve practical problems.

The topic should be closely connected to engineering management realities. Students can choose a topic from the actual working environment and complete the thesis with guidance of a supervisor as well as business practice. The working periods of the thesis are generally 3-6 months.

The form of the thesis can be an engineering management project design, a

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thematic study or a case study report.

(2) 论文答辩具体要求

Thesis review panel must have at least one expert in the senior professional and technical position in the field of engineering management practice.

5、学位授予

Complete the credits and process required by the teaching program and pass the thesis respondent.

② Department of Industrial Engineering – Master’s Program in Global Manufacturing (Management Science and Engineering)

1、课程安排

Public Compulsory courses (4 credits, examinations): Chinese Language, Chinese Culture and Society.

Compulsory courses (6 credits): Literature Review and Research Proposal, Seminar, Social Practice, China Studies, Thesis Research (1-4).

Major Courses (16 credits)

- Decision Making / Quantitative Analysis
- Production Management
- Ergonomics
- Systematic Product Design and Development
- Chinese Manufacturing
- Industrial Engineering Ethics
- Logistics and Supply Chain Management
- Quality Engineering
- Inventory Management
- Data Analysis for Human Factors Research
- Engineering and Technology Management
- Theory of Traffic Engineering and Management
- Distribution System Modeling
- Advanced Quality Management
- Enterprise Information Resource Management
- Human Factor Interaction
- Contemporary Safety Engineering
- Work Organization
- Production Scheduling Theory and Algorithms

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- Human Measurement in Human Factors
- Reliability Engineering and Risk Management
- Game theory and behavioral decision making
- Stochastic Optimization

The students are required to acquire at least 26 credits, 4 credits of public compulsory courses, 6 credits of compulsory activities and minimal 16 credits of basic major courses.

The Department features an elite young faculty consisting of 30 plus in-service teachers and another 30 plus teaching and research assistants.

2、教学方式

Mainly optimize the structure of knowledge, enhancing the practical ability. Combine the ways of theoretical study, on-site practice and creative research & development to make students master the basic theory and knowledge. The abilities to apply and to do creative research are also the focus of this program.

3、学期安排

Courses in the Autumn Semester of the Second Academic Year

- Electives courses, Social Practice
- The Master's Thesis

Courses in the Spring Semester of the Second Academic Year

- Elective courses
- The Master's Thesis and the Oral Defense

Cross-major Elective Courses

If necessary, courses for other majors could be elected. Social practice is encouraged.

Make-up courses

Those who don't have a bachelor's degree of this major should make up relevant courses on the supervision of the faculty. These course credits are excluded from the total credit requirements.

4、毕业论文

(1) 毕业论文具体要求

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(2) 论文答辩具体要求

The thesis proposal should be completed before the end of the second semester.

At the end of the third semester, the committee of the Department will conduct the mid-term examination on the graduate students who will be classified into three levels (excellent, average and failed) according to their comprehensive abilities, thesis schedule, work attitude, and the time spent on the thesis (generally arranged at the end of the third semester). Only those who are classified into average or higher level could continue their thesis research. Those who fail have to apply for extension of studies. Their supervisors will help them to find out the reason and then decide whether the students should have proposal defense again and the students have to take the examination again after one semester.

The thesis research duration is no less than 44 weeks, starting from the proposal being qualified to the thesis being submitted.

5、学位授予

获得学位的具体要求

Complete all the credits and processes required by the teaching program and pass the thesis defense.

③ Department of Computer Science and Technology – Master’s Program in Advanced Computing

1、课程安排

(1) Compulsory Courses

COURSE NAME	COURSE INTRODUCTION	CREDITS
Chinese Language	Every foreign student must take the Chinese Language exam before the beginning of the first semester and has to take the class according to the exam result, except those who meet the requirement of Chinese Language course exemption.	2
Overview of China	This course serves as a general introduction for students who have an interest to know more about Chinese culture and its formation and growth in the past few thousand years.	2
Combinatorics	This course covers topics in Combinatorics and	4

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and Algorithms Design	Algorithms Design. We comprehensively discuss basic concepts, theories, methods, and instances in Combinatorics while focusing on concepts and ideas. Selected topics include: the Pigeonhole Principle, counting, combinations, Polya counting, recurrence relations and generating functions, graph, and linear programming etc. We also discuss basic mathematics concepts in algorithms design including growth of function, Big-O notation and recurrence relations etc., and basic strategies of algorithms design including search, divide and conquer, and greedy etc. Finally, we show examples of algorithms design in Combinatorics, including basic algorithms on Graph, minimum spanning tree algorithms, and algorithms for linear programming etc.	
Machine Learning	<p>The course introduces the advanced theory of machine learning and its related algorithms. The course will first review the state-of-the-art machine learning algorithms and the course's content mainly consists of probabilistic generative learning and probabilistic discriminative learning. Based on the theoretical analysis and algorithmic application, we plan to introduce the following subtopics:</p> <ul style="list-style-type: none"> (1) Probabilistic topic model (2) Restricted Boltzmann machines (3) Factor graph model (4) Bayesian nonparametrics (5) Semi-supervised learning (6) Scalable machine learning <p>The course requires all students to design and implement an algorithm for advanced machine learning, and validate the algorithm on the our provided platform.</p>	3

(2) Elective Courses

COURSE NAME	COURSE INTRODUCTION	CREDITS
Distributed Systems	This is an introductory course on distributed systems. This course introduces the principles of distributed systems as well as some of the current influential large-scale distributed systems such as Google file system, MapReduce, Amazon Dynamo etc. To make the course more concrete, this course uses a series of labs requiring the students to build	3

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	<p>real distributed systems. This course emphasizes on the general principles of building distributed systems in addition to introducing important practical distributed systems. For example, the various kinds of distributed consistency protocols will be discussed and such principles can be adopted in many kinds of real distributed applications. The current systems used by Google, Amazon, Microsoft will be introduced.</p>	
Distributed Database System	<p>The aim of the course is to 1) enhance the previous knowledge of database systems by deepening the understanding of the theoretical and practical aspects of the database technologies, and showing the need for distributed database technology to tackle deficiencies of the centralized database systems; 2) introduce basic principles and implementation techniques of distributed databases including distributed database design and architecture, query processing and optimization, transaction management, recovery, and reliability protocols, and to 3) expose active research issues in distributed database systems and application development.</p>	3
Fundamentals of Computer Graphics	<p>This course gives an introduction to computer graphics, by integrating various skills in computer science such as programming, data structure and algorithm design. With the aid of new human-computer interface, students will learn these fundamental knowledge in computer science in terms of fancy graphics effects that reduce the learning load through abstract data visualization. The content of this course includes raster graphics interactive graphics, matrix representation of 3D transformation, curve and surface design, ray tracing and visual realism, all with OpenGL source code.</p>	3
Advance Computer Networks	<p>This course discusses the basic design principles of the Internet and where the future Internet architecture is heading to. It is for graduate students and we will cultivate the research capabilities of students by this course. 10 lectures will be given. Students are required to read papers and give presentations in the class, as well as finish the course project. The course language is</p>	3

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	English.	
Human Computer Interaction Technologies	This course covers the basic understanding of human perception and cognition, interaction styles development, design and evaluation of GUI, and natural human computer interface technologies. Input technologies are emphasized. Multimodality about visual, acoustic and touch sense channels are introduced with new input interfaces. Signal processing, feature extraction, and mapping schemes will also be covered. Measure methods are for the efficiency of interaction. Hands-on laboratories, study reports, individual projects and semester long group projects will be assigned, some can potentially continue as further researches.	3
Process and Methods of Software Project Management	Software project management is the art and science of planning and leading software projects. It is a sub-discipline of project management in which software projects are planned, monitored and controlled. Using software development life cycle and process groups as two main threads, this course introduces the procedures and methods of software project management, which will help keep projects under control, and produce software with required functions in shorter time, higher quality and predicable cost. This course follows the nine Project Management Knowledge Areas - project integration, scope, time, cost, quality, human resources, communications, risk, and procurement - using the experiences of real-life businesses. The students are organized in groups to do the homework and presentations. Virtual software projects are assigned to groups. Typical scenarios are designed in the projects to help students understand the nine knowledge areas by solving the issues in the projects through group discussion and collaboration.	3
Topics in Advanced Multimedia Technologies	The course starts with an overview of the fundamental concepts, algorithms and tools in multimedia processing, including information theory, signal processing, signal compression, and communications. Then, a brief introduction of multimedia related standards such as H.264, HEVC, RTP are provided. Combining the	3

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	<p>fundamentals and the standards, we will finally introduce the students to challenges and current solutions to various challenges in large scale, real time and mobile multimedia applications.</p>	
Web Information Retrieval	<p>This course gives a survey to the new research branches, introduces the state-of-the-art technologies, and discusses on open problems and challenges on Web information retrieval (Web IR). At the same time, the course focuses on the real applications in the Internet environment, making case study and detail analysis on commercial search engines (SE). The main topics of the course includes (but not limited to): IR in Web environment, such as link analysis, anti-spam, etc; question answering; opinion / sentimental analysis; social media and IR; personalized IR and recommendation; user behavior analysis; online advertisement; mobile search; and IR and SE evaluations. The course is composed of lectures and student-conducted discussions.</p>	3
Introduction to Big Data Systems	<p>The course starts with an overview of the big data analytics, clustering and distributed programming. We will also cover methods for processing big data as well as optimization techniques. Graph processing and visualization of big data will be covered. There will be labs and projects which allow students to experiment with real data and apply the knowledge of what they learnt in class.</p>	3
Advance Network Management	<p>This course is a graduate course and is primarily project-oriented. It will cover three major of aspects of IP network management: networks, objectives and methodologies. There will be 12 lectures given. Students are expected to form a team of two and finish a project on the THU-INM (Tsinghua University IP Network Management) platform.</p>	3
Natural Language Processing	<p>The course introduces natural language processing (NLP), from its history to recent advances in deep learning applied to NLP. NLP is one of the most important technologies in Artificial Intelligence. NLP aims at enabling computers to understand human languages and communicate with humans. There are a large variety of tasks and machine learning methods in NLP. In this course, we plan to introduce the following subtopics:</p>	3

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	<p>(1) The history and the tasks in NLP. (2) Basic tasks in NLP: Sequence tagging, parsing, classification and clustering. (3) Applications in NLP: machine translation, question answering, etc. (4) Recent advances in deep learning applied to NLP. (5) Open problems and challenges for NLP. By learning from lectures and programming assignments, students will master necessary knowledge about NLP and engineering tricks for practical NLP problems.</p>	
Deep Learning	<p>This course introduces the basic concepts and history of deep learning as well as recent developments. The course will cover the theoretical foundation and typical models of deep learning and discuss the cutting-edge research about deep learning. Specifically, we will introduce the following topics:</p> <p>(1) Basics of machine learning (2) Multi-layer perceptron (3) Convolutional neural networks (4) Long short-term memory networks (5) Deep generative models (6) Generative adversarial networks (7) Programming libraries (e.g., Tensorflow, ZhuSuan)</p> <p>The course requires all students to design a deep learning model for solving a practical problem, which can be chosen from a set of problems provided by the teacher or proposed by yourself.</p>	3

(3) 课程设置

Students are required to complete a minimum of 24 credits from the following (about 10 courses)

(1) Compulsory Courses (13 credits, S-Spring, F-Fall)

- Chinese Language (2 credits- S/F) 60610092
- Overview of China (2 credits- S/F)
- Academic Activities (1 credit) 69990031
- Literature Survey and Thesis Proposal (1 credit) 69990021
- Combinatorics and Algorithms Design (4 credits- F) 70240384
- Advance Machine Learning(3 credits-S) 80245013

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(2) Elective Courses (no fewer than 11 credits, S-Spring, F-Fall)

- Web Information Retrieval (3 credits-S) 80240573
- Future Internet (3 credits-F) 80240563
- Distributed Database Systems(3 credits-F) 70240063
- Human Computer Interaction Technologies (3 credits-S) 80240533
- Fundamentals of Computer Graphics (3 credits-S) 80240593
- Topics in Advanced Multimedia Technologies (3 credits- F)80240553
- Process and Methods of Software Project Management (3 credits-F)80240543
- Introduction to big data systems (3 credits-S) 80240693
- Advanced Network Management (3 credits-S) 80240663
- Distributed Systems (3 credits-S) 80240613
- Network Security (2 credits-F) 70250332

Other graduate-level courses offered by the department may be selected under the supervisor's approval.

Please visit the link as follow for Course information of Doctoral Programs.

<http://ac.cs.tsinghua.edu.cn/>

(4) 师资配备

Our department has world renowned professors in a wide variety of cutting-edge subjects.

④ Department of Mechanical Engineering – Master's program and Doctoral Program in Mechanical Engineering

1、 课程安排

(1) Compulsory Courses

COURSE NAME	COURSE INTRODUCTION	CREDITS
Manufacturing Technology I	The course covers the fundamental and advanced manufacturing technology through the informative, analytical, and digital study of the material processing technology (e.g. turning, milling, drilling and grinding), manufacturing process planning, and other advanced precision manufacturing technology. Through the course lectures, both material processing principle and its application in industry will be taught from both qualitative and quantitative perspectives. Therefore, the students	3

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	<p>will be capable in understanding the fundamental and applying such fundamental into practical cases. Meanwhile, a course project is the mandatory part of this course, which encourage students to work on a practical manufacturing related project with international students under the multi-discipline background. In the project, the most advanced analytical and research theory related with manufacturing technology is used to enhance the problem solving capability, communication skill, and understanding of the principle of the manufacturing process.</p>	
Manufacturing Technology II	<p>Manufacturing Technology II is one of courses belonging to the joint master degree program of RWTH Aachen in Germany and Tsinghua University, and open of international students. The main purpose of this course is to teach postgraduate students materials forming mechanism, and production procedure, productivity and cost about material forming techniques which consist of casting, sintering, and metal forming technology. Besides metallurgy and the processing method knowledge, the course also teaches students how to analyze and compare different manufacturing methods by considering dimension accuracy, production efficiency and costing of these methods, and using methods of technology planning. Forming technology is the main part of this course, which includes metallurgical basics in plastic deformation, bulk forming, blanking, and forming tools and tribology.</p> <p>The course is given in English and offered to international students whose majority is Production Engineering, Industrial Engineering, or Mechanical Engineering. The course is given in every week, 3 units per week</p>	3
Fundamentals of Finite Element Method for Engineers	<p>This course covers both fundamental theories and engineering applications of finite element method (FEM). By means of lectures in class, projects on computers, and solutions to practical engineering problems, the students are enabled to learn the</p>	2

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	mathematical and mechanic theories of finite element method, and obtain the capabilities of modeling and analyzing in dealing with the practical engineering problems with finite element method.	
Welding Technology I: Welding and Cutting Technologies	This course introduces the principle and application of welding and cutting technology, and the technology outside the field of the new development and application, in order to make students not only master the modern welding and cutting technology and related basic knowledge, but also understand the forefront of scientific development, grasp the development trend of the discipline, broaden their horizons and their active academic thinking to improve their ability of innovative research.	3
Machine Design Process	This course is based on the teaching of the Machine Design Process, and it covers all of the English handouts to the teaching contents of the school of mechanical engineering at tsinghua university. It involves the structural design of the space agency, the design of high auxiliary transmission, the motion and static analysis of the space mechanism, the dynamics of the mechanical system, the support and the shafting, the flexible mechanical system, the spring design, the dynamic load and the fatigue failure analysis, the flexible mechanism and the mechanical system design problems.	3

(2) Elective Courses

- Laser Application
- Introduction to Advanced Medical Device Design and Fabrication
- Parallel Robots
- Computer-Aided Tissue Engineering (CATE)
- Advanced control of mechatronic systems
- Numerical Simulation of Manufacturing Processes
- Tribology

2、教学方式

Lectures, seminars, panel discussions, computer simulation, experiment/practice, site visit

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3、学期安排

Semester Schedule for Master's Program

1st semester: theoretic courses; literature researches.

2nd semester: theoretic courses; dissertation proposal.

3rd semester: subject research.

4th semester: graduation thesis writing, finish Graduation Project Debate.

4、毕业论文

(1) 毕业论文具体要求

Thesis workload: no less than 1 year for master's thesis, no less than 2 years for doctoral thesis.

(2) 论文答辩具体要求

The instructor and two reviewers will give comments on the thesis, and form the dissertation committee, which will make the decision of dissertation defense.

5、学位授予

获得学位的具体要求

Detail requirements of degree awarding

Master: Total credits >25, examination credits >17

Doctor: Total credits >12

⑤ School of Environment – Master's program in Environmental Science, Engineering and Management

1、课程安排

Students are required to take Chinese language courses, professional courses, internship and academic activities. The program offers a comprehensive professional education and research in areas including water/wastewater treatment, air pollution control, solid waste control, environmental chemistry, environmental microbiology, environmental planning and management and environmental policy, etc. The courses are scheduled to permit either intensive study in a specific area, or interdisciplinary studies across a variety of fields. Comprehensive introductory courses are given to provide a common basis of understanding for those with differing backgrounds. Professional courses are selected in consultation with the

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graduate coordinator or a faculty advisor to meet each student's academic and career goals. An internship is designed for students to gain professional experiences in a company or environmental protection organization in China. The typical period of this program is 2 years.

2、 学期安排

Courses offered in each semester:

Spring Semester:

- Advanced Environmental Chemistry
- Advanced Wastewater Treatment
- Restoration Ecology and Application
- Global Environmental Issues
- Hazardous Waste Disposal Technology
- Environmental Transport Processes

Autumn Semester:

- Fundamentals of Environmental Biotechnology
- Advanced Water Distribution System and Management
- Advanced Water Supply Engineering
- Environmental Management and Policy
- Integrated Solid Waste Management
- Air Pollution Control Technology
- Biofilms: fundamentals to applications
- Challenges for Advanced Water technology: Global Seminars

Note: For the completion of thesis, relevant courses offered by other schools or departments can also be selected. Most courses given in Chinese are also available for international students

3、 毕业论文

Students are required to complete an independent research project, supervised by a faculty member who shares the same interest in this particular topic or issue that is related to his/her own research. A written thesis research proposal and a formal presentation are required in the second term.

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Students are required to submit a thesis in English with an executive summary in Chinese. A final oral defense is required.

For Doctoral program in Environmental Science, Engineering and Management, please visit

<http://www.tsinghua.edu.cn/publish/enven/6285/2016/20161114162506393632346/20161114162506393632346.html>

⑥ School of Journalism and Communication – Master Program in Global Business Journalism

1、课程安排

(1) Compulsory Courses

Basic Courses: Mass Communications and Society in Contemporary China (3 credits), Media Research Methods (2 credits), Intercultural communication (2 credits), Chinese (2 credits), Workshop for Academic Training and Ethics (3 credits)

(2) Elective Courses

Selective Courses: Business News Writing and Editing (3 credits), Economics and Accounting Basics for Journalists (3 credits), Business News Data Mining and Analysis (3 credits), News Writing and Multi-media Business Reporting (3 credits), Corporate Strategies, Case Studies of Chinese and Global Companies (2 credits), GBJ Learning on Practice for New Media Skills (2 credits), Corporate Communication (2 credits), Workshop on Film and TV Production (2 credits), Global Politics and Economy (2 credits), Public Speaking (2 credits), Media Management (2 credits), Opinion and News Commentary (2 credits)

(3) 课程设置

(4) 师资配备

Rick Dunham	DAI, Jia	LU, Jia
Lee Miller	FAN, Hong	LV, Yuxiang
Linda Austin	HANG, Min	SHEN, Yang
CAO, Shule	JIN, Jianbin	SHI, Anbin
CHANG, Jiang	LEI, Jianjun	WANG, Junchao
CHEN, Changfeng	LI, Xiguang	XIONG, Chengyu
CUI, Baoguo	LIU, Huifen	ZHANG, Li
ZHOU, Qing'an	ZHANG, Zheng	

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2、教学方式： Full-time

3、学期安排

4、毕业论文

毕业论文具体要求

Students who choose to write a dissertation are required to conduct an independent research project. Students will be assigned to a faculty member who has an interest in the particular topic or issue that is the focus of their research. Students are required to submit a dissertation of no less than 20,000 words.

Students who choose to do portfolio should submit a portfolio of journalistic work accompanied by detailed explanations of the background work involved. The portfolio of journalistic work should demonstrate the student's ability to initiate and undertake the necessary research to produce a finished and substantial work of news reporting. The subject(s) must be approved by a course tutor beforehand. The portfolio should be made up of a series of news stories focused on 1-2 single topic totaling at least 5,000 words, and be accompanied by a description of the development and research involved in its production totaling at least 5,000 words. Stories included in the portfolio should be publishable, approved by a committee led by supervisors to certify that it meets the standard for publication. Also students need to have one article published or will be published before the Thesis/Portfolio proposal defense.

二、 申请办法

(一) 申请条件

- Applicants must be non-Chinese citizens with a valid passport.
- A Master's Degree program applicant should have a Bachelor's Degree or a degree equivalent to a Bachelor's Degree (or above) in China. A Doctoral Degree program applicant should have a Master's Degree or a degree equivalent to a Master's Degree (or above) in China.
- Applicants should be in good health and character, well-behaved and willing to abide by China's laws, regulations as well as Tsinghua's rules.

(二) 申请程序

1、 入学申请

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Applicants should complete the Online Application on the website of the THU Graduate Programs Application System for International Students (<http://gradadmission.tsinghua.edu.cn>) during the designated THU application period. Applicants should fill in the application information online, upload the application documents listed below to the Online Application System, and pay the application fee online at the time of submission.

2、奖学金申请

Applicants should apply for MOFCOM Scholarship through the Economic and Commercial Counselor's Office (ECCO) of the Chinese Embassy in the applicant's home country. Please consult the organization concerned in advance for the deadline, procedure, and requirements.

3、材料准备

在提交申请前请备妥以下资料：

- Personal statement. Doctoral degree program applicants also need to submit a brief introduction of research experience.
- Degree certificate. Master's degree program applicants should submit a bachelor's degree certificate. Doctoral degree program applicants should submit both master's and bachelor's degree certificates. Those who have not graduated yet must provide a proof of education in current academic institution.
- Academic transcript. Master's degree program applicants should submit an academic transcript of undergraduate study. Doctoral degree program applicants should submit academic transcripts of both graduate and undergraduate studies.
- Two recommendation letters from scholars who have the title of associate professor or higher, or senior professionals in a related academic field.
- Passport personal information page (personal and ordinary passport).

Application documents of MOFCOM Scholarship are subject to requirements of the Economic and Commercial Counselor's Office (ECCO) of the Chinese Embassy in the applicant's home country. Please consult the organization above in advance.

4、提交申请

(1) 将上述 1、2、3 形成的纸质文件原件及其扫描电子版文件

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递交给中国驻所在国大使馆经商处；

(2) 书面请求经商处出具推荐函，并在该书面请求中注明，如所报学校名额已用完，**是否接受调剂**到其他学校相同或类似的专业攻读学位。如有其它特殊说明一并提出。

重要说明：

(1) 提交的所有材料均应以英文或中文书（印）就，如果提交的文件中有非英文或中文书（印）就的，应提供经过认证的英文或中文翻译件。

(2) 《毕业证书》、《学位证书》、《成绩单》、《语言水平证明》等重要文件，除提交复印件外，还需同时提交原件，供中国大使馆经商处人员核验。**经商处人员核验之后，学员自行将申请材料扫描件发给各高校项目招生联络人。**

(3) 所有纸质文件（包括原件和复印件）经使馆经商处核验后，应一并索回，并妥善保管。一旦您被录取，应将这些纸质文件带到中国并交给学校指定的部门审核并存档。

(三) 截止日期：**2018年6月29日**

三、其他重要说明

(一) 联系方式

学校联络人

姓名：曹老师（国际学生学者中心）

电话：86-10-62770992

传真：86-10-62771134

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电子邮箱: iso@tsinghua.edu.cn (国际学生学者中心)

grad@tsinghua.edu.cn (研究生招生办公室)

finaid@tsinghua.edu.cn (研究生院奖助办)

网站: <http://is.tsinghua.edu.cn/> (国际学生学者中心)

<http://gradadmission.tsinghua.edu.cn> (研究生招生办公室)

通讯地址: 清华大学紫荆公寓 22 号楼国际学生学者中心 118 室

(二) 其他说明

- 1、无论申请结果如何, 所有申请材料将不予退还。
- 2、无论是否录取, 中国政府将不做解释说明。
- 3、不提供配偶、子女来华探亲的各项费用。
- 4、来华手续及其有关要求等将在录取文件中说明。